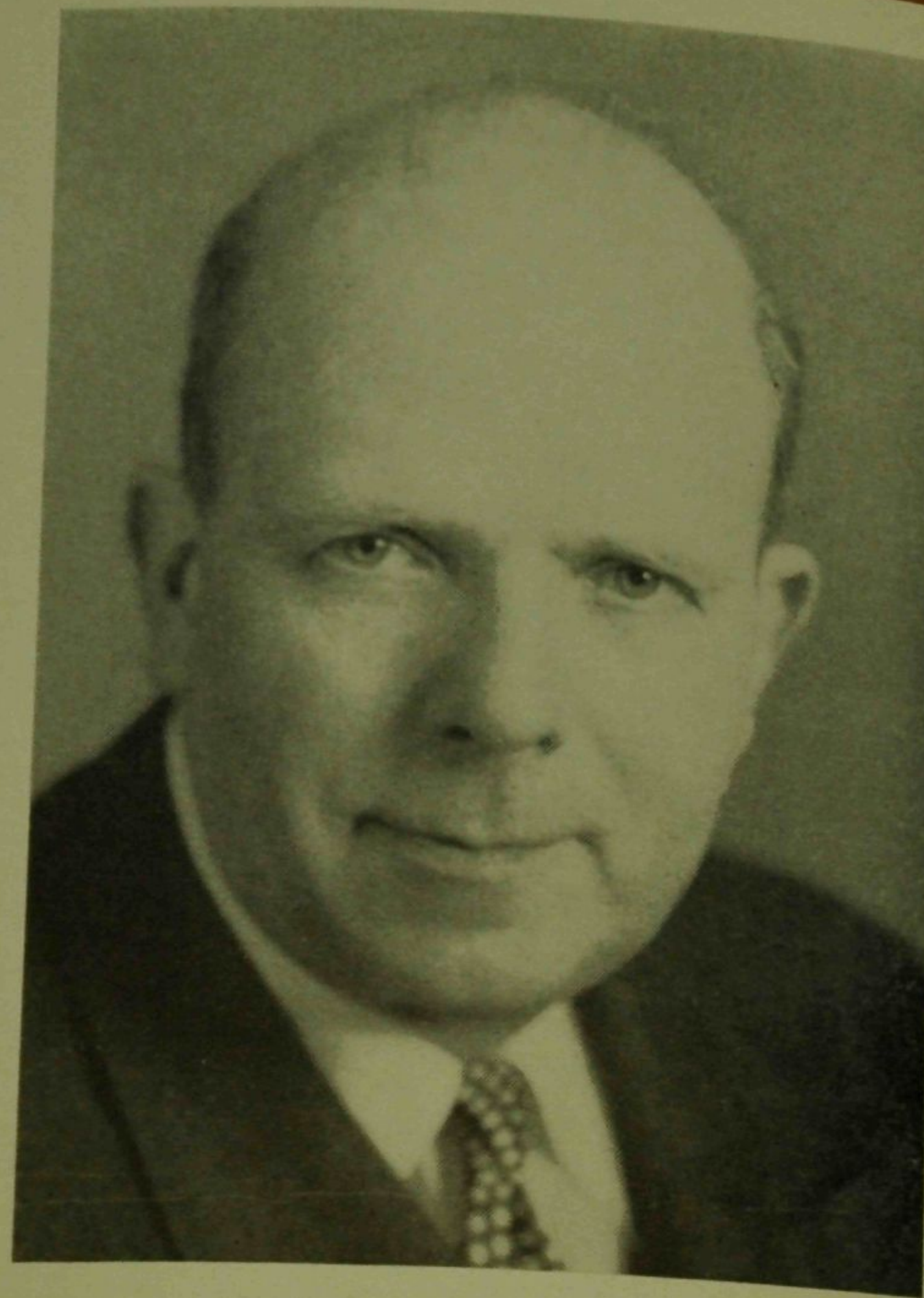


ENGINEERING OPEN HOUSE

MARCH 13-14, 1959
UNIVERSITY OF ILLINOIS
URBANA CAMPUS

**GREETINGS
TO OUR
OPEN HOUSE
VISITORS!**



Once again all of us in the College of Engineering welcome you to the annual Engineering Open House. We are glad of the opportunity to have and to show — by sample and example — some of the phases of engineering. As in the past, the faculty and students have prepared displays which will help to enlighten all visitors as to the work and the education of an engineering student.

A good engineer must have a broad background of mathematics and science, but the most important thing is the combination of qualities that he shares with his fellow workers. I mean the combination of complete honesty in dealing with facts and men. Also he must have an inquiring mind, a creative spirit, persistence, and the desire to be of service to mankind. Along with these qualities goes his habitual use of a method of approaching problems which we like to call "the engineering method." This method has grown steadily until it includes nearly every facet of our lives.

The student coordination committee, the student societies, departmental advisers, and all other students and faculty members who have organized the open house wish you a pleasant, informative, and profitable visit both as friends of engineering and as citizens of Illinois.

Sincerely,

W. L. EVERITT
Dean, College of Engineering

TIME OF OPERATION — Open House will be held from 10:00 a.m. to 9:00 p.m., Friday, March 13, and from 9:00 a.m. to 5:00 p.m., Saturday, March 14.

INFORMATION — Headquarters for Engineering Open House are located on the first floor of Civil Engineering Hall, centered in Room 114. Sponsors are requested to register their groups here.

PARKING — Free parking will be allotted all the visitors of Engineering Open House. Visitor Parking Permits will be available at Open House Headquarters on the first floor of Civil Engineering Hall.

FOOD SERVICE — The cafeteria in the basement of the Illini Union serves lunch from 11:30 a.m. to 1:15 p.m., and the soda fountain is open from 2:00 to 4:30 p.m. The serving line is shortest after 12:20. The Bevier Hall cafeteria (new home economics building) will be open on Friday only from 11:30 to 12:30. In addition, there are many restaurants in the campus business district.

CAMPUS TOURS — Through the cooperation of the Illini Union, guided tours of the campus will leave Room 114 Civil Engineering Hall between 1:00 and 4:00 p.m. both Friday and Saturday. These tours will be about one hour in length and will include the quadrangle and a brief visit to either a men's or women's residence hall.

ILLINOIS CENTRAL RAILROAD EQUIPMENT — Diesel locomotive, standard coach, dynamometer car, caboose, road bed equipment. The railroad equipment is located on the University siding near Abbott Power Plant at the Stadium Drive underpass. A free bus to the railroad exhibit and the Betatron leaves every half hour from the corner of Burrill and Green Streets, by Civil Engineering Hall.

AERONAUTICAL ENGINEERING

Aero. Lab. A and B

HIGH SPEED WIND TUNNEL

SHOCK TUBE

RAM JET

ROCKET ENGINES

TURBOJET ENGINE

TURBOPROP ENGINE

PULSE JET

AIRFRAME TESTING

PHOTOELASTIC TEST

FLUTTER

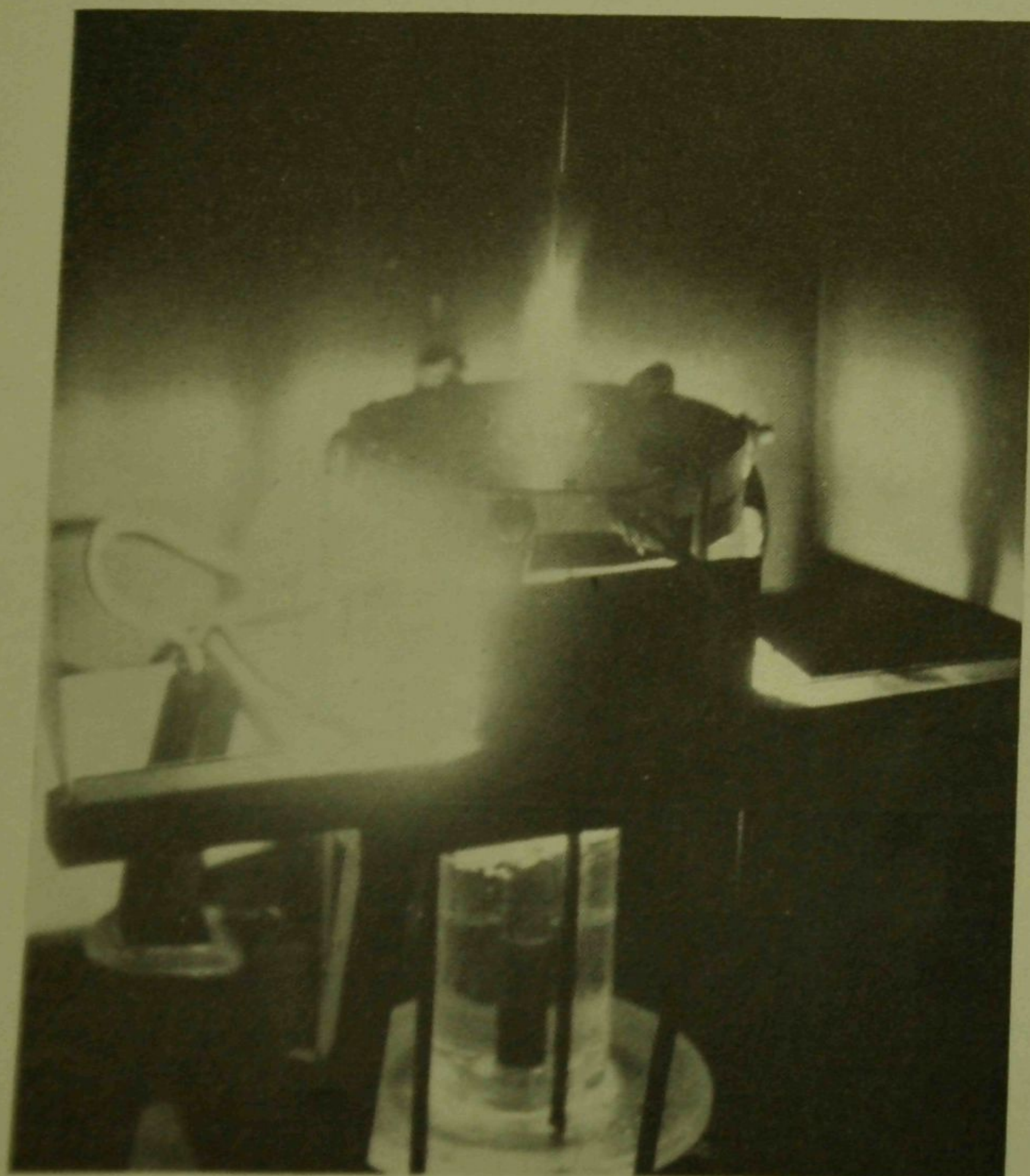
VARIABLE-PITCH PROPELLER

SMOKE-FLOW TUNNEL

DISPLAY OF FLIGHT REGIME PROBLEMS

PLASMA-JET GENERATOR

LINK TRAINER



An experimental plasma-jet generator intended to power hypersonic wind tunnels reaches temperatures of several thousand degrees centigrade to simulate the effects of high-speed entry into the earth's atmosphere.

AGRICULTURAL ENGINEERING

Air Tent north of Talbot Laboratory

GRATE EXPERIMENT — comparison of various grate inlets to tile drains

SOILS DEMONSTRATION

WATER MOVEMENT BY AUGERING

RESEARCH AND DEVELOPMENT OF RIGID FRAME BUILDING DESIGN

BODY TEMPERATURE DETERMINER IN USE

REMODELING CRIB FOR SHELLLED CORN STORAGE

AUTOMATIC FEED HANDLING — Table Model of Complete System

REVERSING-DIRECTION SPLIT PHASE MOTOR

EFFECT OF SPARK ADVANCEMENT ON TRACTOR HORSEPOWER

HAY PELLETING — continuous movie on research and development

CERAMIC ENGINEERING

Ceramics Building

ABRASIVES

ELECTRICAL PORCELAINS

GLASS — operational production tank

NUCLEAR CERAMICS

PORCELAIN ENAMELS — enamel tunnel kiln

REFRACTORIES

STRUCTURAL CLAY — extrusion room display

WHITEWARES

TEMPERATURE MEASUREMENT

ELECTRICAL ENGINEERING

Electrical Engineering Building

MOVIE — How to Become an Engineer

MOVIE — Sonic Waves and Brains

ILLUMINATION LABORATORY DISPLAYS

BELL TELEPHONE COMPANY DISPLAY

RADAR OVEN

TELEVISION DISPLAY

HIGH FIDELITY DISPLAY

TRAFFIC RADAR SYSTEM OF STATE POLICE

GENERAL ENGINEERING

Transportation Building

HISTORY OF ENGINEERING

CAREERS IN ENGINEERING JOURNALISM AND SALES

BUSINESS AND GEOLOGY

ENGINEERING LAW

DESCRIPTIVE GEOMETRY

MACHINE DRAWING

AIRCRAFT DRAFTING AND LOFTING

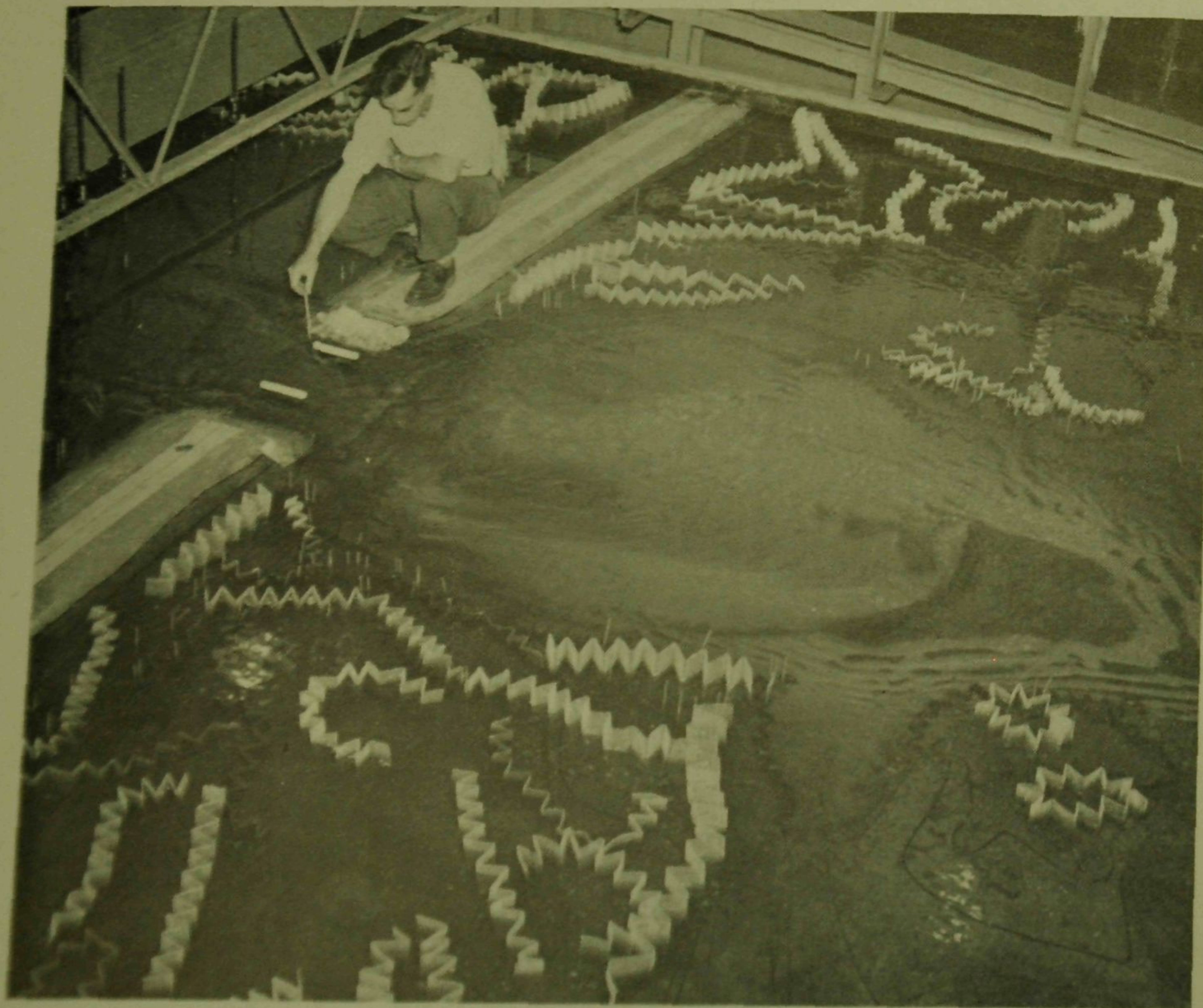
GRAPHICAL COMPUTATION METHODS

PERSPECTIVE DRAWING

LETTERING MACHINES

ELLIPSE MACHINE

ENGINEERING ILLUSTRATION — axonometric projection boards, air brush, zipatone, doubletone



A hydraulic engineering model study simulates river currents to study methods of controlling erosion around bridge abutments.

CHEMICAL ENGINEERING

East Chemistry Building

UNIT OPERATIONS OF CHEMICAL ENGINEERING

ALL-GLASS DISTILLATION COLUMN

CARBONATION OF "CHEM-POP"

RADIOCHEMISTRY DISPLAY

ROTARY FILTER

SENIOR AND GRADUATE RESEARCH PROJECTS

CHEMICAL PRODUCTS DISPLAY

TEMPERATURE MEASUREMENT DISPLAY

CHEMICAL MAGIC SHOW

CIVIL ENGINEERING

Civil Engineering Hall

SURVEYING INSTRUMENTS DISPLAY

HYDRAULICS EXHIBITS

CONSTRUCTION DESIGN AND MODEL

STRUCTURES — models, photographs, and projects

HIGHWAYS — design and models

SANITARY ENGINEERING — models and water treatment plant in action

MOVIES — including atomic reactor structure at Dresden, Ill.

AMERICAN SOCIETY OF CIVIL ENGINEERS DISPLAY

QUESTION AND ANSWER PERIOD CONDUCTED BY CIVIL ENGINEERING
PROFESSORS

Talbot Laboratory

EXAMPLES OF STRUCTURAL RESEARCH IN CIVIL ENGINEERING
DEPARTMENT

INDUSTRIAL ENGINEERING

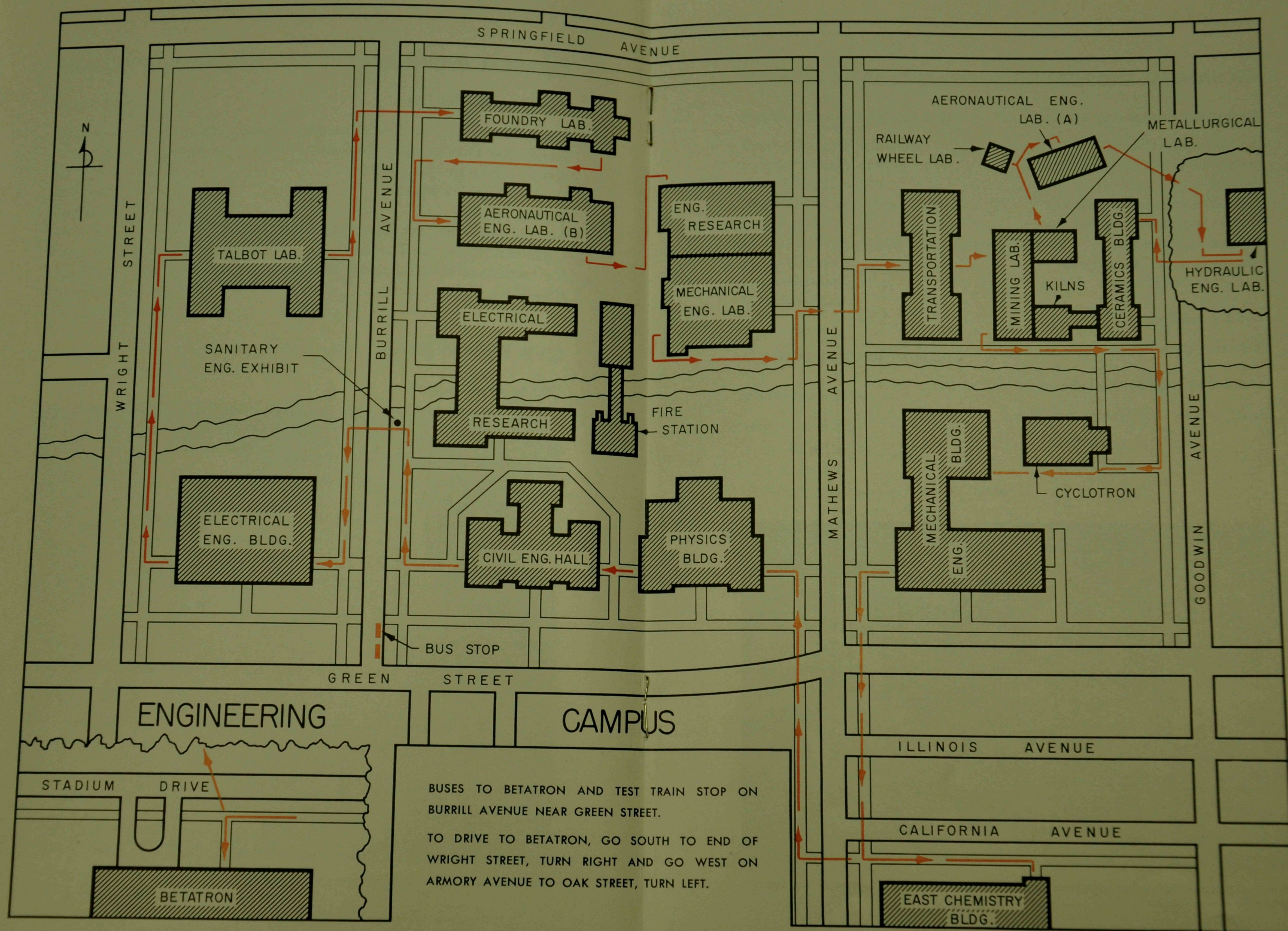
Mechanical Engineering Building

QUALITY CONTROL

METHODS AND TIME STUDY

SAFETY

PLANT LAYOUT AND MATERIALS HANDLING



MECHANICAL ENGINEERING

Mechanical Engineering Building

INFORMATION BOOTH

INTERNAL COMBUSTION ENGINES

MOVIES

HEAT TREATMENT OF METALS

METAL WORKING LABORATORY

WELDING LABORATORY

MECHANICS OF MACHINERY

PI TAU SIGMA DISPLAY

Foundry Building

FOUNDRY DEMONSTRATIONS

Mechanical Engineering Laboratory

HEAT AND POWER DEMONSTRATIONS



Tapping a cupola for molten aluminum to cast souvenir figures is a feature of the Foundry laboratory demonstration.

METALLURGICAL ENGINEERING

Metallurgical Engineering Building

PHASE TRANSFORMATION

STEEL PLANT MAKEUP

ASH TRAY CASTING

MAGNETISM AND HYSTERESIS

CORROSION

PROPERTY CHANGES DUE TO TEMPERATURE

COLD WELDING

GOLD-CADMIUM

WIRE DISPLAY

MINING ENGINEERING

Mining Laboratory

Mining Exhibits

AUTOMATIC HOISTING

GAS TESTING

GEOPHYSICAL PROSPECTING EQUIPMENT

MINERAL ECONOMICS CHARTS

ORE BENEFACTION EQUIPMENT

ROOF BOLTING MODEL

SLUSHER LOADING EXHIBIT

VENTILATION CONTROL

Petroleum Exhibits

DOWNHOLE PUMP DISPLAY AND FILM

ELECTRICAL PUMPING UNIT — Continental Ensco

WELL SERVICING EQUIPMENT

PHYSICS

Physics Building

MECHANICS

ELECTROMAGNETISM

NUCLEAR PHYSICS

LIGHT

Nuclear Research Building

CYCLOTRON

Betatron — Physics Research Building (near Abbott Power Plant)

300 million volt accelerator. A free bus will leave from the corner of Burrill and Green Streets, by Civil Engineering Hall, every half hour.

NUCLEAR ENGINEERING

Mechanical Engineering Laboratory

THEORETICAL AND APPLIED MECHANICS

Talbot Laboratory

COMPRESSION OF CONCRETE CYLINDERS IN A THREE-MILLION-POUND TESTING MACHINE, CRANE BAY

11:00 a.m. and 2:00, 4:00, 7:00, 8:00, and 9:00 p.m. Friday

11:00 a.m. and 1:00, 2:00, 3:00, 4:00, and 5:00 p.m. Saturday

ROPE PUMP, Room 125

WATER BELLS, Room 125

WATER RINGS, Room 125

HYDRAULIC JUMP, Room 126

WIND PRESSURES ON A MODEL HOME, Room 126

VIBRATIONS — INDUCED AND MEASURED, Room 220

PHOTOELASTIC STRESS MEASUREMENT, Room 220

STRAIN GAGES, Room 220

TELEVISION STUDIO FOR TAM LABORATORY INSTRUCTION, Room 220

TENSILE TEST OF STEEL — Room 225

COMPRESSION TEST OF MORTAR, Room 225

FATIGUE OF METALS, Room 321

NEW CURRICULUM IN ENGINEERING MECHANICS

The Department of Theoretical and Applied Mechanics introduced this year a new curriculum leading to the Bachelor of Science degree in Engineering Mechanics. The courses are oriented for the student to obtain great depth of understanding of the basic sciences (mathematics, physics, chemistry) and the engineering sciences (mechanics of solids, fluid flow, thermodynamics, etc.), and to gain some insight and skill in the application of these sciences to engineering problems. Additional information is available in Room 220, Talbot Laboratory.

ARMY R.O.T.C.

Mechanical Engineering Building

Corps of Engineers

BRIDGES — fixed and floating bridge models

MINES AND DEMOLITION — procedures and explosives models

ENGINEERING PROJECTS — responsibility of engineers

POSTERS OF ENGINEERS' PROJECTS

TERRAIN MODEL

Ordnance

DISPLAY OF ORDNANCE EQUIPMENT

81 MM. MORTAR

75 MM. RECOILLESS RIFLE

30 CAL. MACHINE GUN

NAVAL R.O.T.C.

Mechanical Engineering Building

500 LB. BOMB

8 IN. PROJECTILE

6 IN. POWDER CASE

50 CAL. MACHINE GUN

DEPTH CHARGE



A mammoth tent supported and heated entirely by compressed air from a drying fan houses agricultural engineering exhibits.

Naval R.O.T.C. (continued)

ANTI-SUB ROCKET
AMMUNITION DISPLAY BOARDS
NAVY BOILERS
ANTI-AIRCRAFT PROBLEM MODEL
STEAM CYCLE
NAUTILUS SUBMARINE
TALOS MISSILE
COMBAT INFORMATION CENTER OF DESTROYER
"G" SUIT
AVIATOR'S HELMET
SET OF SOUND POWERED PHONES
OXYGEN RESCUE EQUIPMENT (BREATHING EQUIPMENT)

ST. PAT'S BALL

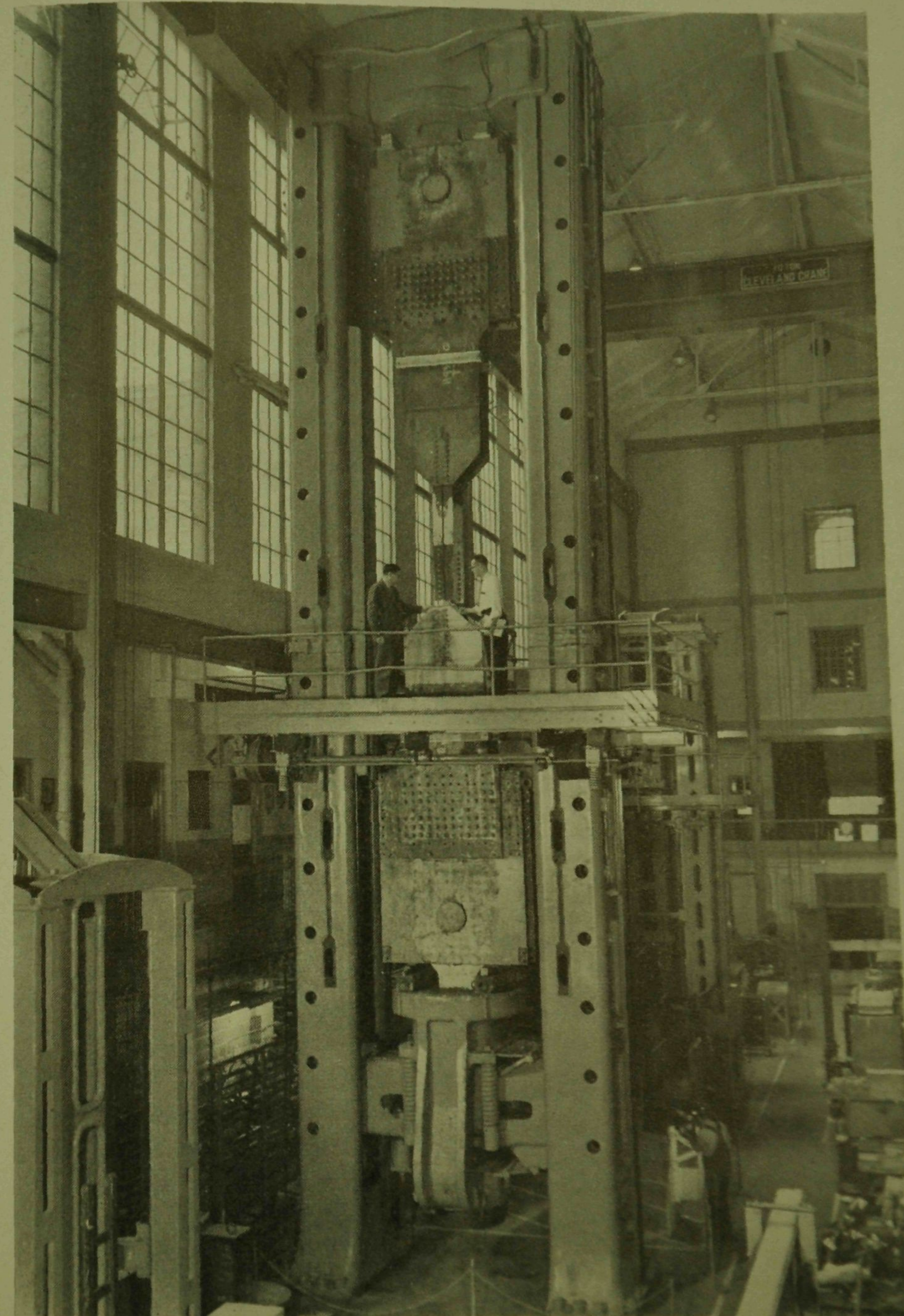
On the evening of March 14, following Open House, the student body of the College of Engineering will hold its annual St. Pat's Ball to honor the patron saint of engineering. St. Pat himself will be there to bestow the title "Knight of the Order of St. Pat" on some dozen seniors who have distinguished themselves in service to the college, both in high academic standing and in extracurricular activities.

. . . AND FINALLY, OUR THANKS

An event as extensive as Open House would be impossible without untold hours of work by many individuals. We wish to thank them all — faculty members, committee chairmen and members, and student representatives in all departments of the college!

We also wish to express our pleasure that you could come to visit us. We have enjoyed your company, and hope that you will come again!

ADRIAN CROOK
General Chairman



A three-million-pound testing machine which can accommodate full-scale structures of steel or concrete up to 38 feet in length for either tension or compression experiments.

OPEN HOUSE CHAIRMEN AND COMMITTEES

GENERAL CHAIRMAN

Adrian Crook

VICE-CHAIRMAN

Emmanuel Guyon

SECRETARY-TREASURER

Philip Tigan

HIGH SCHOOL PUBLICITY

James Fortier

ST. PAT'S BALL

Philip Philhower

LOCAL PUBLICITY

Donald Passaglia

PHYSICAL ARRANGEMENTS

Robert Gibson

ART

Philip Weibler

Faculty Advisers

W. L. Shick, *Chairman*

(*Gen. Engr.*)

Giulio Ascoli (*Physics*)

R. J. Beals (*Ceramic Engr.*)

E. J. Brown (*Mech. Engr.*)

G. R. Eadie (*Mining Engr.*)

T. M. Elsesser (*T.A.M.*)

M. A. Faucett (*Elect. Engr.*)

H. H. Hilton (*Aero. Engr.*)

J. L. Merritt, Jr. (*Civil Engr.*)

S. L. Paul (*Civil Engr.*)

H. B. Puckett (*Agr. Engr.*)

J. A. Quinn (*Chem. Engr.*)

C. M. Wayman (*Met. Engr.*)

Departmental Representatives

Fran Melaniphy, *Chairman*

Darryl Albright (*Met. Engr.*)

William Beutjer (*Civil Engr.*)

John Brennan (*Signal Corps*)

Jordan Buchanan (*Elect. Engr.*)

John Clancy (*Chem. Engr.*)

William Golden (*Physics*)

Jack Krumwiede (*Ceramic Engr.*)

Bill Lewis (*Navy*)

William Littman (*Corps of Engrs.*)

Gary Miner (*Mech. Engr.*)

Clarke Neal (*Ordnance*)

Wayne L. Peterson (*Agr. Engr.*)

Ronald K. Sprague (*Min. Engr.*)